STUDIES ON THE FAUNA OF CURAÇAO AND OTHER CARIBBEAN ISLANDS: No. 82.

THE FRESH-WATER FISHES OF THE ISLAND OF TRINIDAD:

ADDENDA, ERRATA, ET CORRIGENDA

by

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Recently Dr. I. KRISTENSEN, Director of the Caribbean Marine-Biological Institute at Curaçao, kindly donated to the Leiden Natural History Museum a small collection of fishes he collected during a 1961 visit to Trinidad. These specimens proved to be of considerable interest, providing new distributional data and even including two species not listed in my previous review of the fresh-water fishes of the island (1960), and induced me to prepare the present paper. The opportunity has been taken in this paper to correct some errors and omissions in the review.

The species discussed here are numbered in accordance with my 1960 enumeration, the numbers 2a and 68a being additions.

2a. **Leporinus friderici** (Bloch)

Salmo friderici BLOCH, 1794, Naturgeschichte ausl. Fische *8*, p. 94, pl. 378 (Surinam; ref. copied).

Material: one specimen, streamlet near Matura, east Trinidad, 19 June 1961, 72 (88+) mm (cat. no. 24709).

Expecting the Trinidad specimen to be conspecific with one of the 8 or 9 species of *Leporinus* known from the mainland opposite, I made use of a key of the Venezuelan species prepared by INGER (1956, p. 432), which proved very useful. Taking into account the following characters, the present identification apparently can not be doubted, and the species must be added to the Trinidad fresh-water ichthyofauna.

Principal characters: D12; A11; scales in lateral line 35 + 2, circumpeduncular 16; profile over orbits flat; teeth in upper jaw 4 + 4, the cutting edges about transverse to axis of fish, step-like in apical view; three lateral spots or blotches still distinct: the first and largest below rayed dorsal fin, the small second spot less distinct and situated above anterior base of anal fin, the third at caudal base.

The references in literature to BLOCH's original description differ in their indications of the year of publication (1794, 1795, 1797), the number of the volume (8 or 11), and the page number (75, 78, 94). The variation in the volume number may be explained by the fact that vols. 1–9 of the Naturgeschichte der ausländischen Fische are also numbered as vols. 4–12 of BLOCH's Allgemeine Naturgeschichte der Fische, the first three volumes of which consist of BLOCH's Oeconomische Naturgeschichte der Fische Deutschlands. The above reference has kindly been confirmed by Mr. J. J. FRIESWIJK, librarian of the Artis Library at Amsterdam.

3. **Aphyocharax axelrodi** Travassos

Aphyocharax axelrodi, BOESEMAN, 1960, p. 87.

Material: six specimens, rivulet below Churchill-Roosevelt Road, 2 km from Arima, 16 June 1961, 15–21 (19–28) mm (cat. no. 24710).

Though most specimens are in rather bad condition, the distinguishing characters are still distinct and leave no doubt as to the present identification. The locality is not far from Piarco Airport, the type locality.

7. **Hemigrammus unilineatus** (Gill)

Hemigrammus unilineatus, BOESEMAN, 1960, p. 89.

Material: sixty-two specimens, Northern Oropouche River, southwest of Matura, east Trinidad, 19 June 1961, 28–38 (37–50) mm (cat. no. 24711).

The specimens are wholly characteristic; the species appears to be abundant in northern Trinidad south of the Northern Range.

29. **Hypostomus robinii** Valenciennes

Hypostomus robinii, BOESEMAN, 1960, p. 109, fig. 37.

Material: two specimens, rivulet near Matura, east Trinidad, 19 June 1961, 24–28 (26+–29+) mm (cat. no. 24712).

Both specimens are juvenile, but the principal characters almost all support the present identification. For example, the length of mandibular ramus comprised about 2.1–2.3 times in interorbital width, which is consistent with what might be expected on the basis of my previous discussion of the species and the accompanying graph (l.c., fig. 37).

Only the number of teeth appears to differ considerably from the amount previously given, being approximately 14–18 only, with possibly some more hidden in the gums. I am inclined to consider this a juvenile character, the number of teeth probably increasing with age.

35. **Rivulus hartii** (Boulenger)

Rivulus hartii, BOESEMAN, 1960, p. 119.

Material: eighteen specimens, rivulet below Churchill-Roosevelt Road, 2 km from Arima, 16 June 1961, 26–48 (32–58) mm (cat. no. 24713); three specimens, rivulet 4½ km south of Blanchisseuse, near north coast, 18 June 1961, 21–23 (23+–?) mm (cat. no. 24714); five specimens, rivulet 11 km south of Blanchisseuse, 18 June 1961, 18.5–58 (23–71) mm (cat. no. 24715); five specimens, rivulet near Matura, east Trinidad, 19 June 1961, 17.5–85 (20.5–105) mm (cat. no. 24716).

All specimens are characteristic, but their localities add to our knowledge of the distribution of the species on the island.

36. **Poecilia vivipara** Bloch; Schneider

Poecilia vivipara, BOESEMAN, 1960, p. 120.

Material: seven specimens, brackish lagoon behind Balandra Bay, 19 June 1961, 9–14 (11–17.5) mm (cat. no. 24717).

These specimens, minute and not in good condition, were identified only after considerable hesitation. All show a variably distinct humeral spot which represents the only colour marking now discernible.

37. **Lebistus reticulatus** (Peters)

Lebistes reticulatus, BOESEMAN, 1960, p. 121.

Material: one specimen, rivulet below Churchill-Roosevelt Road, 2 km from Arima, 16 June 1961, 12.5 (16) mm (cat. no. 24718); seven specimens, river outlet near Las Cuevas Bay, north coast of Trinidad, 17 June 1961, 11–19 (15–25) mm (cat. no. 24719); eleven specimens, rivulet 4½ km south of Blanchisseuse, near north coast, 18 June 1961, 14–22 (16–26, but C mutilated!) mm (cat. no. 24720); seven specimens, brackish lagoon behind Balandra Bay, 19 June 1961, 14–19 (17–27) mm (cat. no. 24721).

The species appears to be abundant throughout the island.

50. **Centropomus ensiferus** Poey

Centropomus ensiferus, BOESEMAN, 1960, p. 128.

Material: one specimen, Cocorite Swamp, west of Port-of-Spain, 20 June 1961, 98 (125) mm (cat. no. 24722).

Already known from streams around the island, the nearest being the lower Caroni River.

62. **Eleotris pisonis** (Gmelin)

Eleotris pisonis, BOESEMAN, 1960, p. 136.

Material: one specimen, river outlet near Las Cuevas Bay, north coast, 17 June 1961, 58 (71) mm (cat. no. 24723).

The specimen was found in practically salt water, but is recorded here as it frequently penetrates into fresh water and doubtless does the same around Las Cuevas Bay.

68a. **Gobionellus claytonii** (Meek)

Gobius claytonii MEEK, 1900, Publ. Field Columb. Mus., Chicago, Zool. ser., *3*, p. 121, pl. 31 (Rio San Francisco, Vera Cruz, Mexico).

?*Gobius fasciatus*, REGAN (not Gill?), 1906, Proc. Zool. Soc. London, p.392 (Trinidad).

Gobionellus claytonii, GINSBURG, 1932, p. 15 (remarks on REGAN's Trinidad specimens).

?*Ctenogobius fasciatus*, ROBINS & BÖHLKE, 1961, p. 49 (remarks on *Gobius fasciatus* auct.; considered incertae sedis).

Material: one specimen, river outlet near Las Cuevas Bay, north coast, 17 June 1961, 40 (54) mm (cat. no. 24724).

D VI.12; A13; scales in longitudinal series about 42; mid-back

in front of dorsal fin naked; dorsal spines moderate; no canine tooth on side of lower jaw; length of caudal fin about 35% of standard length; no shoulder spot; no vertical bars on cheeks.

While the identification of the present specimen seems to leave no room for doubt, it seems useful to add here some remarks on both the present species and on *Ctenogobius fasciatus* auct.. ROBINS & BÖHLKE (l.c.) drew my attention to the fact that I had omitted to mention the GINSBURG paper (l.c.) in which the author was presumed to have shown that *Gobius fasciatus* Regan (not Gill) was identical with *Gobionellus claytonii*. In fact, GINSBURG only stated that REGAN's *Gobius fasciatus* "as far as may be judged from the description" is probably identical with *claytonii*. For the same reason, GINSBURG carefully indicates the species *claytonii* as being known "possibly also from Trinidad". As a consequence, I should have added an interrogation mark to my reference to *Gobius fasciatus* Regan, 1906a, in my previous record of the literature on *Ctenogobius fasciatus* Gill (BOESEMAN, 1960, p. 139; no. 68), while I should have added the present species, also with an interrogation mark, to the listed fresh-water fishes of Trinidad.

The present record confirms the occurrence of *claytonii* on the island; though the specimen collected by Dr. KRISTENSEN was found in practically salt water, the species is known to penetrate into fresh water regularly, and doubtless does so in Trinidad. The identity of REGAN's specimens must remain doubtful pending a re-examination of the material. Finally, I agree with ROBINS & BÖHLKE that the identity of *Ctenogobius fasciatus* Gill remains a mystery.

The following suggested changes and additions to my previous keys (1960, p. 80: Characinidae; p. 85: Gobiidae) will make it a simple matter to identify the two additional species just recorded.

2. Fam. *Characinidae*

2. Without teeth . . . . . 2. *Curimata argentea*
   Teeth present . . . . . 2'

2'. Upper teeth edges transverse to body axis
2a. *Leporinus friderici*
Upper teeth in continuous series 3

23. Fam. *Gobiidae*

4. Scales in longitudinal series 65 or more . . 67. *Awaous taiasica*
Scales less than 45 . . . . . 4'
4'. Scales about 32; caudal fin not elongate
68. *Ctenogobius fasciatus*
Scales about 40; caudal fin elongate. 68a. *Gobionellus claytonii*

LITERATURE

(The items marked with asterisks should be added to the bibliography in my 1960 review, *Studies 10*, pp. 147–153.)

*Boeseman, M., 1960. The fresh-water fishes of the island of Trinidad. *Stud. Fauna Curaçao Caribb. Isl. 10*, no. 48, pp. 72–153, figs. 36–37.

*Ginsburg, I., 1932. A revision of the genus Gobionellus (Family Gobiidae). *Bull. Bingham Oceanogr. Coll. 4*, art. 2, 51 pp., 7 figs.

Inger, R. F., 1956. Notes on a collection of fishes from southeastern Venezuela. *Fieldiana Zool. 34*, pp. 425–440, figs. 92–94.

*Pellegrin, J., 1920. Poissons de la Trinité envoyés par M. Paul Serre. *Bull. Mus. Paris 26*, pp. 109–111.

Regan, C. T., 1906. On the fresh-water fishes of the island of Trinidad, based on the collections, notes, and sketches made by Mr. Lechmere Guppy, Junr.. *Proc. Zool. Soc. London*, pp. 378–393, pls. 21–25.

*Robins, C. R., & J. E. Böhlke, 1961. A new Gobioid Fish from the Antilles and Comments on Ctenogobius fasciatus and C. curtisi. *Copeia*, no. 1, pp. 46–50, 3 figs.